

What is claimed is:

1. The radioactive magnetic fluids comprising:
magnetic nanoparticles; and surfactants coated onto the
surface of the magnetic nanoparticles, wherein the
5 radioactive copper is a component part of the magnetic
nanoparticles.

2. The radioactive magnetic fluids according to claim
1, wherein the magnetic nanoparticles is obtained with
10 synthesis of $\text{Cu}_x\text{Fe}_{1-x}\text{O}\cdot\text{Fe}_2\text{O}_3$ by chemical reaction of Cu^{2+}
solution with the solutions of Fe^{2+} and Fe^{3+} .

3. The radioactive magnetic fluids according to claim
2, wherein the surfactants comprise the first surfactant
15 coated onto the surface of the magnetic nanoparticles, the
first surfactant being decanoic acid, and the second
surfactant coated onto the first-coated magnetic
nanoparticles, the second surfactant being nonanoic acid.

20 4. The radioactive magnetic fluids according to claim
2, wherein x value of $\text{Cu}_x\text{Fe}_{1-x}\text{O}\cdot\text{Fe}_2\text{O}_3$ in a chemical
composition of the magnetic nanoparticles is between 0.1
and 0.4.

25 5. The radioactive magnetic fluids according to claim

3, wherein x value of $\text{Cu}_x\text{Fe}_{1-x}\text{O}\cdot\text{Fe}_2\text{O}_3$ in a chemical composition of the magnetic nanoparticles is between 0.1 and 0.4.

5 6. The process for preparing the radioactive magnetic fluids, which comprises the steps:

1)preparing the magnetic nanoparticles of $\text{Cu}_x\text{Fe}_{1-x}\text{O}\cdot\text{Fe}_2\text{O}_3$ by coprecipitating components of Fe^{2+} and Fe^{3+} with a component of Cu^{2+} under the presence of precipitator(step
10 1);

2)first coating the magnetic nanoparticles with decanoic acid(step 2); and

3)second coating the first-coated magnetic nanoparticles with nonanoic acid(step 3).

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7. The process according to claim 6, wherein x value of $\text{Cu}_x\text{Fe}_{1-x}\text{O}\cdot\text{Fe}_2\text{O}_3$ in a chemical composition of the magnetic nanoparticles is between 0.1 and 0.4.

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8. The process according to claim 6, wherein the precipitator is sodium hydroxide.

9. The process according to claim 6, wherein the mole ratio of $(\text{Cu}^{2+}+\text{Fe}^{2+})$ to Fe^{3+} is within range of $(1.1\sim1.4):2$.

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10. Therapeutic drug for cancer containing the
radioactive magnetic fluids represented by the claim 1.

11. Diagnostic reagent for cancer containing the
5 radioactive magnetic fluids represented by the claim 1.